UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

October 10, 2014

Via E-mail
Bernard J. Cassidy, Esq.
General Counsel
Juno Therapeutics, Inc.
307 Westlake Avenue North, Suite 300
Seattle, Washington 98109

Re: Juno Therapeutics, Inc.
Draft Registration Statement on Form S-1
Submitted September 12, 2014
CIK No. 0001594864

Dear Mr. Cassidy:

We have reviewed your draft registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

General

1. We note that there are a number of additional exhibits that still need to be filed. Please provide these exhibits as promptly as possible. Please note that we may have comments on these materials once they are provided.

2. Please confirm that the graphics included in your registration statement are the only graphics you will use in your prospectus. If those are not the only graphics, please provide any additional graphics prior to their use for our review.

3. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications. Similarly, please

supplementally provide us with any research reports about you that are published or distributed in reliance upon Section 2(a)(3) of the Securities Act of 1933 added by Section 105(a) of the Jumpstart Our Business Startups Act by any broker or dealer that is participating or will participate in your offering.

Prospectus Summary
Overview, page 1

4. We note your statements on pages 1, 70 and 84 that you have shown "compelling efficacy" in clinical trials for your product candidates. Because FDA approval is dependent on the agency making a formal determination (according to criteria specified in law and agency regulations) that a drug is effective, it is premature for you to state that you have shown "compelling efficacy" in clinical trials for your product candidates. Accordingly, please remove or modify this wording, as necessary, throughout your prospectus.

Risks Associated with Our Business, page 4

5. Please expand your summary of materials risks to disclose your accumulated deficit to date.

6. Please revise your summary of material risks to note risks that the Company faces due to the occurrence of adverse events in clinical trials of your product candidates. In this regard, you should specifically highlight risks relating to the occurrence of severe cytokine release syndrome among patients using your product candidate including the fact that 39% of the patients administered JCAR015 in Phase 1 trials experienced sCRS, that there were two deaths related to sCRS in clinical trials for JCAR015, and that the FDA previously placed a clinical hold on such trials as a result of this occurrence.

Implications of Being an Emerging Growth Company

7. We note your statement on page 83 under the section entitled, "JOBS Act," that you have irrevocably elected not to avail yourselves of the extended transition period for complying with new or revised accounting standards and, therefore, you will be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies. Please expand your disclosure in this section to provide a discussion of your election under Section 107(b) of the JOBS Act here as well.

Risk Factors
Risks Related to Our Business and Industry
If we fail to obtain additional financing, we may be unable to complete the…, page 12

8. Please expand your disclosure in this risk factor to quantify the amount of your cash and cash equivalents.

Our product candidates may cause undesirable side effects or have other properties…, page 20

9. Please revise your disclosure to explain the phrases "low disease burden" and high disease burden" with respect to the occurrence of sCRS in patients administered with JCAR015. Please also identify the "certain patients" with "certain high end-organ medical issues" excluded from trials to persuade the FDA to remove its clinical hold.

Cell based therapies rely on the availability of reagents and other specialty…, page 27

10. Please revise your disclosure in this risk factor to define the term "reagents."

If product liability lawsuits are brought against us, we may incur substantial…, page 39

11. Please expand your disclosure in this risk factor to quantify the amount of clinical trial insurance you carry.

Our ability to use our net operating loss carryforwards and certain other…, page 39

12. Please expand your disclosure in this risk factor to quantify your tax loss carry-forwards and to describe when your carry-forwards begin to expire.

Risks Related to Intellectual Property
We depend, in part, on our licensors to maintain, protect, and prosecute…, page 48

13. Please expand your disclosure to identify which licensors have the right to control enforcement of your licensed patents or defense of any claims asserting the invalidity of these patents.

We have limited foreign intellectual property rights and may not be able to…, page 51

14. We note your disclosure that many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions and that legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to biopharmaceuticals. Please expand your disclosure to identify the foreign countries where you may have difficulties enforcing your patent rights.

The lives of our patents may not be sufficient to effectively protect our…, page 53

15. Please expand your disclosure in this risk factor to describe the expiration dates of your current material patents.

Use of Proceeds, page 62

16. Please note that where you have identified specific purposes for which you intend to use the offering proceeds, investors are entitled to your best estimate as to the amounts of proceeds that will be used for each specified purpose. You may, as necessary provide additional disclosure that advises investors of the particular factors and assumptions that form the basis of your estimate, any uncertainty surrounding your estimate and the reasons that the actual amounts could vary. Please apply any changes to your disclosure in response to this comment to the other areas in the prospectus in which you discuss your use of proceeds.

17. We note your disclosure that you plan to use the proceeds from the offering to conduct additional trials for your CD19 product candidate. Please revise your disclosure to identify the specific CD 19 product candidate on which you intend to focus and the amount of proceeds that you intend to devote to conducting additional trials for such product candidate. Please also provide an estimate as to how far in the development process for each of your CD19 product candidates you expect the offering proceeds will enable you to reach.

Management's Discussion and Analysis of Financial Condition and Results of Operations
Critical Accounting Policies and Significant Judgments and Estimates
Stock-Based Compensation, page 72

18. Please disclose the methods that management used to determine the fair value of the company's shares and the nature of the material assumptions involved. Additionally, please note we may have additional comments on your accounting for stock compensation or any beneficial conversion features once you have disclosed an estimated offering price. Please supplementally provide us with a quantitative and qualitative analysis explaining the difference between the estimated offering price and the fair value of each equity issuance through the date of effectiveness for the preceding twelve months.

Contractual Obligations page 82

19. Please quantify the aggregate amount of milestone and success payments that you are obligated to make under all your agreements.

Business

20. Please disclose, where applicable in your business section, when investigational new drug applications ("INDs") were filed for the commencement of clinical trials for JCAR015, JCAR014, JCAR017 and WT-1, the name of the trial sponsor and the subject of the INDs.

Our CAR and TCR Technologies
CARs, page 90

21. We note your statement that your most clinically-advanced CAR T cell programs use an scFv from a "murine-derived" antibody to target a cell surface protein called CD19. Please expand your disclosure to define the term "murine-derived" at its first use in the first bullet point of this section.

Product Pipeline
CD19 Directed Product Candidates
JCAR015, page 95

22. Please expand your disclosure regarding your Phase I clinical trial for JCAR015 to describe the duration of the study and the CAR T cell dosing administered to patients before the protocol changes were made after the two patient deaths.

JCAR014, page 98

23. We note that you are currently enrolling patients in a Phase I/II trial exploring JCAR014. Please expand your disclosure to describe the dosing that will be used in the study, the number of patients that will be enrolled, the duration of the study and the primary and any secondary endpoints of the study.

JCAR017, page 98

24. For your Phase I/II clinical trial of JCAR017, please expand your disclosure to describe the number of patients enrolled in the trial, the dosing being used in the study, the duration of the study and the primary and any secondary endpoints of the study.

Additional Product Candidates
MUC-16/IL-12, page 99

25. Please expand your disclosure in the second paragraph of this section to describe the severe side effects which have limited system delivery of IL-12.

Intellectual Property, page 101

26. We note your disclosure regarding your material patents and patent applications. Please expand your disclosure to explain which of your material patents and patent applications are in-licensed and from whom, the type of patent protection such as composition of matter, use or process for your material patents and pending patent applications, and the expected expiration dates of pending patent applications.

Licensed and Third-Party Research Collaborations
St. Jude Children's Research Hospital Agreement, page 108

27. Please expand your disclosure regarding your October 2013 license agreement with FHCRC, your November 2013 license agreement with SCRI, your February 2014 license agreement with SCRI, your November 2009 license agreement with COH and your December 2013 agreement with St. Jude to summarize the nature and scope of the "certain patent rights" to which these institutions granted you licenses.

License Agreements with Fred Hutchinson Cancer Research Center assumed…, page 109

28. Please expand your disclosure regarding your 2012 FHCRC Agreement to disclose the nature and scope of the patent and technology rights that FHCRC granted you an exclusive license. Also, in regard to the 2009 FHCRC Agreement, please expand your disclosure to describe the nature and scope of the services provided under the agreement.

Facilities, page 120

29. Please file your lease agreement as an exhibit.

Statement of Cash Flows, page F-5

30. The statement of cash flows reports $10.2 million of research and development licenses acquired with stock issuances. On page 77 you disclose $12.3 million of research and development expense that was non-cash stock-based expense. Please reconcile these two amounts and revise the disclosure as necessary.

Statement of Convertible Preferred Stock and Stockholders' Deficit, page F-6

31. The fair value of common stock issued to strategic partners was valued at $.26 per share. The fair value of common stock issued to founders and employees was $.07 and $.02, respectively. Please tell us how you determined the fair value of your common stock issued to founders and employees in determining the amount of stock-based compensation expense to recognize and why the fair value is less than $.26 per share.

32. Please explain to us why the Series A-1 convertible preferred stock appears to have been recorded at $.54 per share when the Series A convertible preferred stock was recorded at $1.00 per share.

Notes to Financial Statements
3. Acquisition of Technology From ZetaRx Biosciences, Inc., page F-12

33. Please clarify the nature of the research and development license agreements acquired. Clarify what technology was acquired in this acquisition and what technology was

acquired in later license agreements (Note 5). Additionally, please disclose the significant assumptions used to determine the value of the preferred and common stock issued in conjunction with the acquisition. Tell us why the common stock value was substantially different from the value of the common stock issued to your collaboration partners discussed in Note 4.

4. Collaboration Agreements, page F-13

34. Please disclose and quantify the assumptions used in determining that the success payments liability was de minimis under each agreement at December 31, 2013. Similarly, please quantify the significant assumptions used to determine the fair value of the success payments at June 30, 2014 on pages F-35 and F-36.

Statement of Convertible Preferred Stock and Stockholders' Deficit, page F-26

35. Provide us reference to authoritative literature supporting recording the $6,889 fair value of preferred stock put options to stockholders' equity rather than convertible preferred stock.

Success Payments, page F-31

36. Tell us why you believe classifying the success payments as research and development expense complies with ASC 730. Provide us any generally accepted industry practice you are relying on. Tell us if you considered if the instrument is a derivative and why or why not. Provide us your computation of $.4 million of expense recognized based on the $6.5 million estimated fair value of the non-employee share-based payments at June 30, 2014 and the authoritative literature that supports your recognition.

37. Tell us what consideration you gave to disclosing the range of expense amounts related to success payments that would be recognized upon successful completion of an initial public offering or providing pro forma effect. Refer to Staff Accounting Bulletin Topic 1B.3.

11. Subsequent Events, page F-41

38. Please clarify how the fair value of the preferred stock was determined in deriving at the deemed dividend you expect to record of $30 million and $22 million relating to the second and final closing of the Series A convertible preferred stock financing.

39. With respect to the development agreement and a supply agreement entered into in July 2014, please quantify the amount of clinical and regulatory milestone payments.

If you intend to respond to these comments with an amended draft registration statement, please submit it and any associated correspondence in accordance with the guidance we provide

in the Division's October 11, 2012 announcement on the SEC website at http://www.sec.gov/divisions/corpfin/cfannouncements/drsfilingprocedures101512.htm.

Please keep in mind that we may publicly post filing review correspondence in accordance with our December 1, 2011 policy (http://www.sec.gov/divisions/corpfin/cfannouncements/edgarcorrespondence.htm). If you intend to use Rule 83 (17 CFR 200.83) to request confidential treatment of information in the correspondence you submit on EDGAR, please properly mark that information in each of your confidential submissions to us so we do not repeat or refer to that information in our comment letters to you.

You may contact Tabatha McCullom at (202) 551-3658 or Lisa Vanjoske at (202) 551-3614 if you have questions regarding comments on the financial statements and related matters. Please contact Johnny Gharib at (202) 551-3170, Bryan Pitko at (202) 551-3203 or me at (202) 551-3715 with any other questions.

Sincerely,

/s/ Daniel Greenspan for

Jeffrey P. Riedler
Assistant Director

cc: Via E-mail
Michael Nordtvedt, Esq.
Wilson Sonsini Goodrich & Rosati, P.C.